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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,291	06/18/2001	Grzegorz J. Czajkowski	SUN-P6118-RSH	3914

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PARK, VAUGHAN & FLEMING LLP
508 SECOND STREET
SUITE 201
DAVIS, CA 95616

EXAMINER

ALI, SYED J

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,291

Applicant(s)

CZAJKOWSKI ET AL.

Examiner

Syed J Ali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-21 are pending in this application.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. The oath or declaration is defective because the claim for priority to provisional application 60/276,049 is incorrect. A preliminary amendment has been submitted indicating that the serial number of the provisional application should be 60/276,409. This should be reflected in the oath or declaration as well.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 15-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

5. As per claim 15, the apparatus is at best a software system, per se, failing to be tangibly embodied or including any recited hardware as part of the system. Claims 16-21 are non-statutory for at least the same reasons as discussed for their parent claim, as they fail to present any limitations that resolve the deficiencies of their parent claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-3, 8-10, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Haggar et al. (US 2002/0091904) (hereinafter Haggar).**

8. As per claim 1, Haggar teaches the invention as claimed, including a method for managing surplus memory in a multitasking system, comprising:

reserving a guaranteed amount of memory for a task from a heap in the multitasking system (paragraph 0006);

receiving a request from the task to allocate memory for a new object (paragraphs 0006-0009, 0023, 0033); and

if memory is available in the guaranteed amount of memory for the task, allocating memory for the new object from the guaranteed amount of memory (paragraph 0007, 0033);

otherwise, if surplus memory is available in the heap in addition to memory allocated to tasks, reserving an additional amount of memory to the task from the heap (paragraph 0007, 0034-0035), and

allocating memory for the new object from the additional amount of memory, whereby allocating memory for the new object from the additional amount of memory delays garbage collection (paragraphs 0007, 0034-0035).

9. As per claim 2, Hagggar teaches the invention as claimed, including the method of claim 1, wherein if surplus memory is not available in the heap in addition to memory allocated to tasks, the method further comprises:

performing garbage collection on memory to reclaim unused reserved memory (paragraph 0024, 0039), and

allocating memory for the new object from reclaimed surplus memory (paragraph 0024, 0039).

10. As per claim 3, Hagggar teaches the invention as claimed, including the method of claim 1, wherein reserving the guaranteed amount of memory from the heap includes:

determining if there is sufficient memory available in the heap (paragraphs 0033, 0039);
and

if not, performing garbage collection to reclaim allocated surplus memory (paragraph 0024, 0039), and

reserving memory for the task from reclaimed memory (paragraph 0024, 0039).

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11. As per claims 8-10, Haggar teaches the invention as claimed, including a computer-readable storage medium storing instructions that when executed by a computer causes the computer to perform the method of claims 1-3, respectively (Fig. 2).

12. As per claims 15-17, Haggar teaches the invention as claimed, including an apparatus capable of performing the method of claims 1-3, respectively (Fig. 2).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 4-7, 11-14, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haggar in view of Otis (US 2002/0099765).**

15. As per claim 4, Otis teaches the invention as claimed, including the method of claim 1, wherein memory in the heap is managed using a generational garbage collector (paragraph 0048).

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16. It would have been obvious to one of ordinary skill in the art to combine Haggard and Otis since a generational memory organization and garbage collector allows objects that are commonly referenced to have a more permanent position in the memory. Those objects that are not referenced often are the first to be reclaimed, thereby decreasing the overall computation cost associated with garbage collection (Otis, paragraph 0008). Additionally, Haggard indicates that any garbage collection technique may be used to manage the memory or detect unused heap memory (Haggard, paragraph 0040).

17. As per claim 5, Otis teaches the invention as claimed, including the method of claim 4, wherein a plurality of tasks share an old generation of the generational garbage collector (paragraphs 0049, 0052).

18. As per claim 6, Otis teaches the invention as claimed, including the method of claim 5, wherein each task of the plurality of tasks has a new generation of the generational garbage collector belonging to the task (paragraphs 0052-0053).

19. As per claim 7, Otis teaches the invention as claimed, including the method of claim 4, wherein the generational garbage collector is a copying garbage collector (paragraphs 0055, 0060).

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20. As per claims 11-14, Haggar teaches the invention as claimed, including a computer-readable storage medium storing instructions that when executed by a computer causes the computer to perform the method of claims 4-7, respectively (Fig. 2).

21. As per claims 18-21, Haggar teaches the invention as claimed, including an apparatus capable of performing the method of claims 4-7, respectively (Fig. 2).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shaylor (US 2002/0108025) teaches a method of increasing the size of a portion of memory that is allocated to a task if there is an insufficient amount of memory to satisfy an additional allocation request.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
October 27, 2004



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